Technical Data Sheet

DOWSIL™ TC-5080 Thermal Grease

One-part, white, non-curing, thermally conductive compound

FEATURES & BENEFITS

- Good thermal conductivity
- Low oil bleed
- Stable at high temperatures

COMPOSITION

- Thermally conductive fillers
- Siloxane polymer matrix

APPLICATIONS

- DOWSIL™ TC-5080 Thermal Grease is suitable for use as a thermal interface material for lighting assemblies, telecom equipment, consumer devices, power supplies and power components for transportation.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
One part or Two part	-	One
Color	-	White
Viscosity	cP mPa-sec Pa-sec	836000 836000 836
Extrusion Rate	grams/min	1053
Flow Rate (Slump)	mm	4.5
Specific Gravity (Uncured)	-	2.1
Oil Bleed – 150°C/24hrs	%	<0.01
Thermal Conductivity	btu/hr-ft-°F W/mK	0.58 1
Dielectric Strength	volts/mil kV/mm	220 8.7
Volume Resistivity	ohm*cm	2.9E+15

DESCRIPTION

Dow thermally conductive compounds are grease like silicone materials, heavily filled with heat-conductive metal oxides. This combination promotes high thermal conductivity, low bleed and high-temperature stability. The compounds are designed to maintain a positive heat sink seal to improve heat transfer from the electrical device and PCB system assembly to the heat sink or chassis, thereby increasing the overall efficiency of the device.

PCB system assemblies are continually designed to deliver higher performance. Especially in the area of consumer devices, there is also a continual trend towards smaller, more compact designs. In combination these factors typically mean that more heat is generated in the device. Thermal management of PCB system assemblies is a primary concern of design engineers. A cooler device allows for more efficient operation and better reliability over the life of the device. As such, thermally conductive compounds play an integral role here.

Thermally conductive materials act as a thermal "bridge" to remove heat from a heat source (device) to the ambient via a heat transfer media (i.e. heat sink). These materials have properties such as low thermal resistance, high thermal conductivity, and can achieve thin Bond Line Thicknesses (BLTs) which can help to improve the transfer of heat away from the device.

APPLICATION METHODS

- Screen print
- Stencil print
- Needle dispense

SOLVENT EXPOSURE

In general, the product is resistance to minimal or intermittent solvent exposure, however best practice is to avoid solvent exposure altogether.

USABLE LIFE AND STORAGE

The product should be stored in its original packaging with the cover tightly attached to avoid any contamination. Store in accordance with any special instructions listed on the product label. The product should be used by the indicated Exp. Date found on the label.

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

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